

The New English School, Pune

India's First Planetarium Turns Sixty

A simple planetarium is a theatre inside a domed structure, wherein a specially designed projector creates simulated motions of the sun, its planets, moon and some selected natural satellites, and so on, against a background of starry sky.

The planetarium movement in India had started with the opening of a similar simple planetarium in the New English School in Pune in 1954. Since then, 38 more planetariums, ranging from simple to very sophisticated ones, have been established in various parts of the country.

The New English School in Pune was established on 1st January 1880, at Morobadada Wada in Pune by three young visionaries, Vishnushastri Chiplunkar, Bal Gangadhar Tilak and Mahadev Ballal Namjoshi, who recognized the necessity of introducing western education in India, in order to reawaken the conscience and arouse the

intellect of the student community. The move was welcomed by the locals and from an enrollment of 35 students on 1st January 1880, the number rose to 336 by 31st December 1880 in the school.

On 24th October 1884, the Deccan Education Society (DES) was formed with eminent personalities like Gopal Ganesh Agarkar, Vamanrao Apte, V. B. Kelkar, M. S. Gole, and N. K. Dharap, besides Chiplunkar, Namjoshi and Tilak. The New English School then came under the control of the Society. In the early 1950s, the New English School was moved to a new location in the heart of the city, on Tilak Road. The building was inaugurated on 10th January 1954 by Dr S. Radhakrishnan, Vice President of India.

The New English School building has a unique Y-shaped architecture. It has three linear wings that are connected at a central hub and each wing makes an

angle of 120 degrees with the adjacent wing. Each wing consists of partly two and partly three storey building.

At the top most point of the hub, there is a concrete hemispherical dome, of about 9m inner-diameter, built to house a planetarium. The floor area of the planetarium is 63 square meter. P.N. Veerkar, Head Master of the school at that time, had conceptualized and initiated the project to set up a planetarium under the dome.

Kusumbai Motichand Planetarium, the first projection planetarium in India, became operational at the New English School in Pune, sixty years ago, on 18th September 1954. It was named after the mother of Seth Motichand Shah, son-in-law of Seth Walchand Hirachand (1882-1953), the founder of the Walchand Group of Industries. Seth Walchand was a pioneer in aircraft manufacturing, organized farming, modern maritime

Planetarium show in progress



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shipping and shipbuilding industry in the country. A generous donation Rs 50,000/- from the Walchand Group in early 1950's enthused the New English School authorities to undertake this venture, not attempted in any other developing country at that time.

The planetarium was inaugurated by Girijashankar Bajpayee, then Governor of Bombay Province. The planetarium could accommodate 100 students at a time. The project cost till opening of the planetarium was Rs 55,000/-, approximately.

From the time of commissioning of the planetarium projector, Shrirang Prahlad Gijare, an Assistant Teacher of the New English School, shouldered the responsibility to coordinate all educational activities of the planetarium for more than fifteen years.

Early Planetariums Worldwide

In 1913, Max Wolf, a German scientist and astronomer had suggested to Oskar Von Miller, a German engineer and also the founder President of the Deutsches Museum in Munich, an idea of a device, a projection planetarium, to show simulated planetary motions against the background of an artificially created night sky. The dream came true with the creation of the 'Wonders of Jena', the first planetarium projector developed by a German maker of optical instruments, Carl Zeiss in Jena, in 1923. With this projector, Deutsches Museum in 1925 had set up the first modern planetarium in the world.

During the next twenty years, many planetariums were established in Germany, USA, Italy, Austria, Japan,

Sweden, Belgium, France, USSR, Japan, Holland, etc., but none in India. Besides Carl Zeiss, planetarium projectors were developed and marketed by Frank & John Korkosz brothers in Springfield, USA from 1937.

During the late 1930s, Armand Spitz, a part-time lecturer at the Fels Planetarium of the Franklin Institute in Philadelphia, had understood the pedagogic possibilities of the planetariums. He believed that the planetarium was the greatest teaching instrument ever invented. He, however, realized that only those who lived near major cities like Chicago, New York and Philadelphia could enjoy planetarium shows. Further, Planetarium projectors available in the market at that time were expensive. Spitz, therefore, formed his company in 1945 to produce smaller and inexpensive optical star projectors, which could be set up even in school premises.

In 1947, while designing an inexpensive planetarium projector, Spitz faced difficulties with his icosahedron shaped projection globe. An icosahedron is a polyhedron with 20 triangular faces, 30

Spitz A1 planetarium projector of 1954



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Stories of constellations



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edges and 12 vertices. He approached his acquaintance Albert Einstein, a Professor of the Princeton University, New Jersey for a solution. Following Einstein's suggestion Spitz used a dodecahedron, a polyhedron with 12 regular pentagonal faces, 20 vertices, 30 edges and 160 diagonals, and succeeded in producing an inexpensive globe substitute for his inexpensive planetarium projector. Spitz then made his first official presentation of 'Model A' projector at the Harvard Observatory in Massachusetts.

In 1949, Armand Spitz produced the 'Spitz A1' model that revolutionized

manufacture of inexpensive planetarium projectors in the world. Within a few years, many planetariums located in schools and small museums started operation for education and public entertainment. The Spitz A1 optical projector presented the sun, moon, and five naked eye planets, inside dome-shaped theatres.

The Sanford Museum and Planetarium, at Cherokee in the Iowa of the United States had installed a Spitz A1 projector in 1951. This is believed to be the only planetarium in the world that is running its shows with this projector for more than sixty years.

Planetarium Projector of New English School

The projector installed in Kusumbai Motichand Planetarium in the New English School in 1954 was a Spitz A1 instrument. It was imported from Philadelphia. It is the oldest planetarium instrument in India that is still operational. However, for about seven years since 2004, the projector remained out of order and as a result planetarium shows could not be made.

The Planetarium Committee of the New English School, headed by D.S. Kotibhaskar, took it as a challenge to set right the planetarium projector. Finally, during early 2011, due to untiring efforts of three of its members, P.S. Mahajani, S.G. Kulkarni and V.V. Ramdasi, the planetarium was made functional. They replaced some defective components, such as, transformer, mercury switches, projector motor, electrical bulbs, etc. and spent about Rs 2 lakh for the entire repair work.

Some modifications were also made to the projection system to show zodiacs in the planetarium.

The planetarium of the New English School, functioning under the aegis of the Deccan Education Society, Pune has organized during the last three years some 300 shows, witnessed by more than 20,000 school students from Pune and adjoining localities. General visitors are welcomed to the shows on Independence Day and other select holidays. The planetarium conducts a certificate course on 'Fundamentals of Astronomy' for 8th standard school students.

Kusumbai Motichand Planetarium is believed to be the oldest school planetarium in Asia, which has not lost its attraction even after sixty years of operation.

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